

AMENDED CLAIMS

1. Process for separating and isolating nutritional elements from a material containing lipids and proteins and being of a biological origin, in which process the biological material is either frozen and cut into smaller pieces or vice versa, the material being mechanically processed while frozen to rupture the cell membranes in the biological material and thus destroy structural components in the material, wherein the biological material subsequently is thawed to a temperature within the interval 0°C to 60°C, although below the denaturing temperature for the proteins, said denaturing temperature being the temperature where the proteins in the material start to form agglomerates being visible as strings or a precipitation in the material, whereafter protein and fat/lipids are separated from the resulting composition at a temperature below the found denaturing temperature in a per se known manner, the material being processed at a temperature in the interval 0°C to 60°C provided the lipids under these conditions are liquid and where the proteins are not denatured during the separation.

2. Process according to claim 1, wherein the freezing/thawing processes are performed continuously.

3. Process according to claim 1, wherein the freezing/thawing process is performed semi-continuously.

4. Process according to claim 1, wherein the material is frozen to a temperature within the interval -3°C to -50°C, preferably within the interval -5°C to 28°C.

5. Process according to claim 1, wherein the mechanical processing of the biological material is performed by one or more of the methods grinding, milling, chopping or pressing.

6. Process according to claim 1, wherein a non-denatured oil including non-denatured proteins is isolated from the biological material.

7. Process according to claim 1, wherein the grax being left over after the processing of the biological material is used as a nutritional additive in food or feed, or that the grax serves as a starting material for further isolation of non-denatured proteins or non-denatured trace elements.

8. Process according to claim 7, wherein the isolated trace elements are vitamins.

9. Process according to claim 1, wherein the process is performed under a vacuum or under an inert atmosphere.

10. Process according to claim 1, wherein cell disrupting compounds or compositions are added to the raw material prior or subsequent to the diminution of the raw material.

11. Process according to claim 10, wherein the cell disrupting compound(s) is/are enzyme(s), solvent(s), emulsion-bursting material(s), emulsion-inhibiting solution(s).

12. Process according to claim 1, wherein the one or more anti-oxidant(s) is/are added during the process.

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